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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,523	09/23/2003	Jeffrey T. Benoit	60246-218	1878

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EXAMINER

MAYEKAR, KISHOR

ART UNIT	PAPER NUMBER
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1753

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/668,523	Applicant(s) BENOIT ET AL.	
	Examiner Kishor Mayekar	Art Unit 1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) 32-55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>01/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of invention of Group I, claims 1-31 in the reply filed on 20 November 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2 and 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2, the recitation "said photocatalytic coating oxidizes contaminants" is unclear to the relationship of contaminants and the fluid.

In claim 13, the same is applied to claim 2 to the recitation "contaminants".

In claim 14, the recitation "said contaminants" is lacking antecedent basis.

Art Unit: 1753

In claim 15, the recitation "said contaminants" is lacking antecedent basis. Also, the recitations "PCB" and "PAH" without an explanation of what they stand for are indefinite.

In claim 16, the recitation "cover" is incorrect.

Claim Rejections - 35 USC § 102 and § 103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 12-14, 16, 18-25 and 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 10-281,484 A (provided with a copy of computer English translation).

Art Unit: 1753

JP '484's invention is directed to an air cleaner by the action of light upon a photocatalyst. JP '484 discloses that the air cleaner comprises substrate 61, a photocatalytic coating on the substrate, and a light source 50 for activating the photocatalytic coating, wherein the light source comprises a non-reflective portion 53 that allows passage of light and a reflective portion 52 that reflects the light to pass through the non-reflective portion of the light source (Figs. 1-6; and paragraphs [0020], [0024], [0028], [0031]-[0034], [0040]-[0054]).

As to the subject matter of claim 19, JP '484 discloses it in paragraphs [0029] and [0030].

As to the subject matter of claim 20, JP '484 discloses it in paragraph [0041] and Fig. 5.

7. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '484 in view of JP 9-299937 A. The difference between JP '484 and the instant claims is the provision of the recited lamp in each of the instant claims. JP '937 shows in treating device for material by the action of a photocatalyst the provision that the lamp is of the limitation (see abstract). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified JP '484 as shown by JP '937 because the selection of any of known equivalent UV light source would have been within the level of ordinary skill in the art.

Art Unit: 1753

8. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '484 in view of Popov et al. (US 5,723,947). The difference between JP '484 and the instant claims is the provision of the recited lamp in each of the instant claims. Popov shows a lamp for the generation of the visible and UV light that is of the limitation (col. 1, lines 6-11). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified JP '484 as shown by Popov because the selection of any of known equivalent UV light source would have been within the level of ordinary skill in the art.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP '484 in view of JP 2001-9016 A (with a computer English translation). The difference between JP '484 and the instant claims is the provision of the recited lamp. JP '016 shows in treating device for material by the action of a photocatalyst the provision that the lamp is of the limitation (see abstract and Figs. 1 and 2). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified JP '484 as shown by JP '016 because the selection of any of known equivalent UV light source would have been within the level of ordinary skill in the art.

10. Claims 10, 11, 15, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '484 in view of Horton, III (US 6,730,265 B2). The difference

Art Unit: 1753

between JP '484 and the instant claims are the provision of the generated wavelength and the converging lens. Horton shows in a treating device for material by the action of a photocatalyst that the use of UV light with a photocatalyst to degrade organic particulate impurities is known (col. 1, line 12 through col. 2, line 9), the provision of optical elements such as lens (col. 5, line 35 through col. 6, line 24), and type of UV lamps (col. 6, lines 29-67). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified JP '484 as shown by prior art disclosed in Horton or Horton because the selection of any of known equivalent light source with the recited wavelength would have been within the level of ordinary skill in the art and the provision of the recited lens would maximize the intensity, focus and control of the UV light.

11. Claims 10, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '484. The differences between JP '484 and the instant claims are the recited wavelength, contaminants and the coverage of the reflective portion.

As to the former, since JP '484 discloses in paragraph [0033] that the light includes UV rays and in paragraph [0036] the wavelength. It has been held that the disclosure in the prior art of any value within the claimed range is an anticipation of that range. And a prima facie case of obviousness exists in the case where the claimed range overlaps range disclosed by the prior art, *In re Wertheim* 191 USPQ 90.

Art Unit: 1753

As to the recited contaminants, "expressions relating the apparatus to contents thereof during an intended operation are no significance in determining patentability of the apparatus claim", *Ex parte Thibault* 164 US PQ 666.

As to the recited coverage, since JP '484 discloses in paragraph [0041], the range of coverage shown by arrow head G, the selection of the coverage would be within the level of ordinary skill in the art.

Conclusion

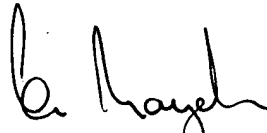
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kishor Mayekar whose telephone number is (571) 272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-

Art Unit: 1753

217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Kishor Mayekar', is positioned above the printed name.

Kishor Mayekar
Primary Examiner
Art Unit 1753